[6450-01-P]

DEPARTMENT OF ENERGY

Office of Energy Efficiency and Renewable Energy

[Case No. RF-026]

Decision and Order Granting a Waiver to Samsung from the Department of Energy Residential Refrigerator and Refrigerator-Freezer Test Procedures

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Decision and Order.

SUMMARY: The U.S. Department of Energy (DOE) gives notice of the decision and order (Case No. RF-026) that grants to Samsung Electronics America, Inc. (Samsung) a waiver from the DOE electric refrigerator and refrigerator-freezer test procedures for the basic models set forth in its petition for waiver. In its petition, Samsung provides an alternate test procedure to address the difficulties in testing dual compressor systems using the currently applicable DOE test procedure. Under today's decision and order, Samsung shall be required to test and rate these refrigerator-freezers using an alternate test procedure that takes dual compressors into account when measuring energy consumption.

DATES: This Decision and Order is effective **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

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SUPPLEMENTARY INFORMATION: In accordance with Title 10 of the Code of Federal Regulations (10 CFR 430.27(l)), DOE gives notice of the issuance of its decision and order as set forth below. The decision and order grants Samsung a waiver from the applicable residential refrigerator and refrigerator-freezer test procedures in 10 CFR part 430, subpart B, appendix A1 for certain basic models of refrigerator-freezers with dual compressors, provided that Samsung tests and rates such products using the alternate test procedure described in this notice. Today's decision prohibits Samsung from making representations concerning the energy efficiency of these products unless the product has been tested consistent with the provisions and restrictions in the alternate test procedure set forth in the decision and order below, and the representations fairly disclose the test results.

Distributors, retailers, and private labelers are held to the same standard when making representations regarding the energy efficiency of these products. 42 U.S.C. 6293(c).

Issued in Washington, DC, on June 7, 2013.

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Kathleen B. Hogan
Deputy Assistant Secretary for Energy Efficiency
Energy Efficiency and Renewable Energy

Decision and Order

In the Matter of: Samsung Electronics America, Inc. (Case No. RF-026)

I. *Background and Authority*

Title III, Part B of the Energy Policy and Conservation Act of 1975 (EPCA), Pub. L. 94-163 (42 U.S.C. 6291-6309, as codified) established the Energy Conservation Program for Consumer Products Other Than Automobiles, a program covering most major household appliances, which includes the residential electric refrigerators and refrigerator-freezers that are the focus of this notice.[1] Part B includes definitions, test procedures, labeling provisions, energy conservation standards, and the authority to require information and reports from manufacturers. Further, it authorizes the Secretary of Energy to prescribe test procedures that are reasonably designed to produce results which measure energy efficiency, energy use, or estimated operating costs, and that are not unduly burdensome to conduct. (42 U.S.C. 6293(b)(3)) The test procedure for residential electric refrigerators and refrigerator-freezers is set forth in 10 CFR part 430, subpart B, appendix A1.

DOE's regulations for covered products contain provisions allowing a person to seek a waiver from the test procedure requirements for a particular basic model for covered consumer products when (1) the petitioner's basic model for which the petition for waiver was submitted contains one or more design characteristics that prevent testing according to the prescribed test procedure, or (2) when prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption characteristics as to provide materially

[1] For editorial reasons, upon codification in the U.S. Code, Part B was re-designated Part A.

inaccurate comparative data. 10 CFR 430.27(a)(1). Petitioners must include in their petition any alternate test procedures known to the petitioner to evaluate the basic model in a manner representative of its energy consumption characteristics.

The Assistant Secretary for Energy Efficiency and Renewable Energy (the Assistant Secretary) may grant a waiver subject to conditions, including adherence to alternate test procedures. 10 CFR 430.27(l). Waivers remain in effect pursuant to the provisions of 10 CFR 430.27(m).

Any interested person who has submitted a petition for waiver may also file an application for interim waiver of the applicable test procedure requirements. 10 CFR 430.27(a)(2). The Assistant Secretary will grant an interim waiver request if it is determined that the applicant will experience economic hardship if the interim waiver is denied, if it appears likely that the petition for waiver will be granted, and/or the Assistant Secretary determines that it would be desirable for public policy reasons to grant immediate relief pending a determination on the petition for waiver. 10 CFR 430.27(g).

II. *Samsung's Petition for Waiver: Assertions and Determinations*

On January 7, 2013, Samsung submitted a petition for waiver from the test procedure applicable to residential electric refrigerators and refrigerator-freezers set forth in 10 CFR part 430, subpart B, appendix A1 because it was designing new refrigerator-freezers that incorporate a dual compressor design. Samsung sought a waiver from the existing DOE test procedure applicable to refrigerators and refrigerator-freezers under 10 CFR part 430 because the existing

test procedure does not account for the company's dual compressor products. In its petition, Samsung set forth an alternate test procedure and noted in support of its petition that DOE has already granted Sub-Zero a similar waiver pertaining to the use of dual compressor-equipped refrigerators. See 76 FR 71335 (November 17, 2011) (interim waiver) and 77 FR 5784 (February 6, 2012) (Decision and Order). DOE has also granted a similar waiver to LG. See 77 FR 44603 (July 30, 2012) (interim waiver) and 78 FR 18327 (March 26, 2013) (Decision and Order). While Samsung has acknowledged that its products are different from the ones addressed by the Sub-Zero waiver in that they feature a different number of evaporators and defrost heaters, Samsung asserts that the procedure outlined in the Sub-Zero waiver will provide a representative measurement of the energy use of its products. In addition, Samsung requests that it be permitted to use the alternate test procedure that DOE has already permitted Sub-Zero and LG to use in response to similar waiver requests pertaining to the testing of refrigerator-freezers that use shared dual compressors, with minor modification suggested below:

Before: 5.2.1.4 Dual Compressor Systems with dual Automatic Defrost

With Minor Change: 5.2.1.4 Dual Compressor Systems with Automatic Defrost (i=1 is mono, i=2 is dual).

DOE has determined that it is desirable to have similar basic models, such as those addressed by this most recent Samsung petition, tested in a consistent manner and is adopting the same approach laid out in its prior decision by permitting Samsung to use the alternate test procedure specified in this Decision and Order.

III. *Consultations with Other Agencies*

DOE consulted with the Federal Trade Commission (FTC) staff concerning the Samsung petition for waiver. The FTC staff did not have any objections to granting a waiver to Samsung.

IV. *Conclusion*

After careful consideration of all the material that was submitted by Samsung and DOE's consultation with the FTC staff, it is ordered that:

(1) The petitions for waiver submitted by the Samsung Electronics America, Inc. (Case No. RF-026) are hereby granted as set forth in the paragraphs in this section.

(2) Samsung shall be required to test and rate the following Samsung model according to the alternate test procedure set forth in paragraph (3) of this section.

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(3) Samsung shall be required to test the product listed in paragraph (2) of this section according to the test procedures for electric refrigerator-freezers prescribed by DOE at 10 CFR part 430, appendix A1, except that, for the Samsung products listed in paragraph (2) only, replace section 5.2.1.4 of appendix A1, with the following:

5.2.1.4 Dual Compressor Systems with Automatic Defrost (i=1 is mono, i=2 is dual). The two-part test method in section 4.2.1 must be used, and the energy consumption in kilowatt-hours per day shall be calculated equivalent to:

$$ET = (1440 \text{ x } EP1/T1) + \sum_{i=1}^{D} [(EP2_i - (EP1 \text{ x } T2_i/T1)) \text{ x } (12/CT_i)]$$

Where:

1440 = number of minutes in a day

ET is the test cycle energy (kWh/day);

i is a variable that can equal to 1, 2 or more that identifies the distinct defrost cycle types applicable for the refrigerator or refrigerator-freezer;

D is the total number of distinct defrost cycle types;

EP1 is the dual compressor energy expended during the first part of the test (it is calculated for a whole number of freezer compressor cycles at least 24 hours in duration and may be the summation of several running periods that do not include any precool, defrost, or recovery periods);

T1 is the length of time for EP1 (minutes);

EP2i is the total energy consumed during the second (defrost) part of the test being conducted for compartment i. (kWh);

T2i is the length of time (minutes) for the second (defrost) part of the test being conducted for compartment i.

CTi is the freezer compressor run time between instances of defrost cycle type i. CTi for compartment i with long time automatic defrost system is calculated as per 10 CFR part 430,

subpart B, appendix A1 clause 5.2.1.2. CTi for compartment i with variable defrost system is calculated as per 10 CFR part 430 subpart B appendix A1 clause 5.2.1.3. (hours rounded to the nearest tenth of an hour).

Stabilization:

The test shall start after a minimum 24 hours stabilization run for each temperature control setting.

Steady State for EP1:

The temperature average for the first and last compressor cycle of the test period must be within 1.0 [degrees] F (0.6 [degrees] C) of the test period temperature average for each compartment. Make this determination for the fresh food compartment for the fresh food compressor cycles closest to the start and end of the test period. If multiple segments are used for test period 1, each segment must comply with above requirement.

Steady State for EP2i:

The second (defrost) part of the test must be preceded and followed by regular compressor cycles. The temperature average for the first and last compressor cycle of the test period must be within 1.0 [degrees] F (0.6 [degrees] C) of the EP1 test period temperature average for each compartment.

Test Period for EP2i, T2i:

EP2i includes precool, defrost, and recovery time for compartment i, as well as sufficient dual compressor steady state run cycles to allow T2i to be at least 24 hours. The test period shall start at the end of a regular freezer compressor on-cycle after the previous defrost occurrence (refrigerator or freezer). The test period also includes the target defrost and following regular freezer compressor cycles, ending at the end of a regular freezer compressor on-cycle before the

next defrost occurrence (refrigerator or freezer). If the previous condition does not meet 24 hours time, additional EP1 steady state segment data could be included. Steady state run cycle data can be utilized in EP1 and EP2i.

Test Measurement Frequency Measurements shall be taken at regular interval not exceeding 1 minute.

[End of 5.2.1.4]

(4) Representations. Samsung may make representations about the energy use of its refrigerator-freezer products for compliance, marketing, or other purposes only to the extent that such products have been tested in accordance with the provisions outlined above and such representations fairly disclose the results of such testing.

(5) This waiver shall remain in effect consistent with the provisions of 10 CFR 430.27(m).

(6) This waiver is issued on the condition that the statements, representations, and documentary materials provided by the petitioner are valid. DOE may revoke or modify this waiver at any time if it determines the factual basis underlying the petition for waiver is incorrect, or the results from the alternate test procedure are unrepresentative of the basic models' true energy consumption characteristics.

(7) This waiver applies only to those basic models set out in Samsung's January 7, 2013 petition for waiver. Grant of this waiver does not release a petitioner from the certification requirements set forth at 10 CFR part 429.

Issued in Washington, DC, on June 7, 2013.

Kathleen B. Hogan
Deputy Assistant Secretary for Energy Efficiency
Energy Efficiency and Renewable Energy

[FR Doc. 2013-14166 Filed 06/13/2013 at 8:45 am; Publication Date: 06/14/2013]